

# Chapter 5

## Installing a Physical Network



# Episode 5.01

Episode **Introduction to Structured Cabling**  
title:

Objective: **2.4 Explain important factors of physical installations**

## L3s

**Structured cabling**

**Telecommunication closet/ equipment room**

**Horizontal run**

**Work Area**

**Patch panel**

**Patch cable**

**TIA standards**



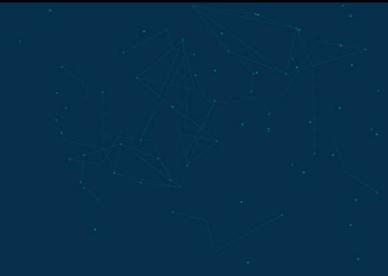
# Episode 5.02

Episode **Terminating Structured Cabling**  
title:

Objective: **1.5 Compare and contrast transmission media and transceivers.**  
**2.4 Explain important factors of physical installations**

L3s

**110-punchdown**





# Episode 5.03

Episode **Equipment Room**  
title:

Objective: **2.4 Explain important factors of physical installations**

## L3s

Main distribution frame (MDF)

Intermediate distribution frame (IDF)

U (or unit) is a standard height for components in a rack

Demarc

Demarc extension



# Episode 5.04

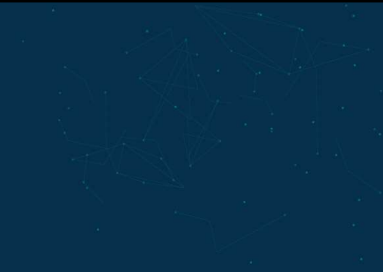
Episode **Alternative Distribution Panels**  
title:

Objective: **2.4 Explain important factors of physical installations**



L3s

**66-punchdown block**  
**Fiber distribution panel**





# Episode 5.05

Episode **Using a Toner and Probe**  
title:

Objective: **5.5 Given a scenario, use the appropriate tool or protocol to solve networking issues**

L3s

**Fox & Hound**

**Tone generator and tone probe**



# Episode 5.06

Episode **Testing Cable**  
title:

Objective: **5.2 Given a scenario, troubleshoot common cabling and physical interface issues**  
**5.5 Given a scenario, use the appropriate tool or protocol to solve networking issues**

## L3s

**Wiremap**

**Continuity**

**Distance**

**Time domain reflectometer (TDR)**

**EIA/TIA -> horizontal runs less than 90m**

**Optical TDR (OTDR)**

**Near-end crosstalk (NEXT), far-end crosstalk (FEXT)**

**Crosstalk**



# Episode 5.07

Episode **Troubleshooting Cabling, Part 1**  
title:

Objective: 1.7 Given a scenario, use appropriate IPv4 network addressing.  
5.2 Given a scenario, troubleshoot common cabling and physical interface issues

## L3s

**Check link light on the network card  
and switch**

**Loopback address**

**The loopback address is 127.0.0.1**

**Loopback adapter**



# Episode 5.08

Episode **Troubleshooting Cabling, Part 2**  
title:

Objective: **2.4 Explain important factors of physical installations**  
**5.2 Given a scenario, troubleshoot common cabling and physical interface issues**



## L3s

**Multimeter**

**Voltage monitor**

**Rack-mounted uninterruptible power supply (UPS)**

**Time domain reflectometer (TDR)**

**Interference**